



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,846	10/19/2000	Courtney C. Konopka	66161	6249
22242	7590	03/30/2004	EXAMINER	
FITCH EVEN TABIN AND FLANNERY 120 SOUTH LA SALLE STREET SUITE 1600 CHICAGO, IL 60603-3406			EDOUARD, PATRICK NESTOR	
			ART UNIT	PAPER NUMBER
			2654	
DATE MAILED: 03/30/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/692,846	KONOPKA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Patrick N. Edouard	2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 23 January 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 and 26-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-17 and 26-56 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

1. This Office Action is in response to communication filed 1/23/03(paper #10). Claims 1-17 and new claims 26-56 are pending.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-17 and 26-56 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Carberry et al (6,442,522 B1).

Carberry et teach a method of speech recognition comprising: searching for an attention word based on a first context including a first set of grammar models (figure 2, his grammar switch 38 and his speech recognition 36, col.5, lines 5-10, his various grammar specific to airline reservation, train reservation, cruise reservation and auto reservations); and

switching upon finding the attention word to a second context to search for an open-ended user request, wherein second context includes a second set of models, grammar and lexicons (col. 5, lines 35-50, his phrase spotters to recognize semantic clauses).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array).

Wyard et al teach a natural language interface control system for operating a plurality of devices comprising:

" feature extraction module coupled to the first microphone"(his speech recognizer")

"a speech recognition module coupled to the speech recognition module; (His speech recognizer, page 193, his components of a spoken language system) and

"A device interface coupled to the natural interface module, wherein the natural language interface module is for operating a plurality of devices coupled to the device interface based upon non-prompted, open-ended natural language request from a user"(his prolog database, page 186, his system is based on a non-prompted to allow users to express their requirements more directly).

It is noted that Wyard et al teach the claimed invention but not explicitly teach a 3 dimensional microphone array. However, this feature is well known in the art as evidenced by Giuliani et al who teach a four microphone array. Therefore, one of ordinary skill in the art at the time invention was made would have it obvious to incorporate a four microphone array as taught by Giuliani into the natural language as taught by Wyard because it would improve the signal quality in a noisy environment (see Giuliani page 860).

It is further noted that the combination teaches the claimed invention but does not explicitly teach wherein at least one of the different acoustic models and at least one of the different grammars is downloaded over a network. However, Official Notice is taken that both this feature and its advantages are well known in the art. Therefore, one having ordinary skill in the art at the time the invention was made would have it obvious to download the grammar over a network because it would render the system faster since its memory could be smaller and its access would be faster.

As per claim 3, Wyard et al wherein the speech recognition module utilizes an N-gram grammar ( page 194, left column, his N-gram model).

As per claims 4 and 22, Wyard et al wherein the natural language interface module utilizes a Probabilistic context free grammar (page 193, right column, his FSN recognizer).

As per claims 20 and 21, Wyard et al teach applying speech recognition to the received attention word...user request (page 193, right column section 4.11 , his HMM language model).

6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array) and Stanford et al (5,513,298) as applied to claim 1 above, and further in view of Carberry et al (6,442,522 B1).

It is noted that the combination teaches the claimed invention but does not explicitly teach wherein the natural language interface abstracts each of the plurality of devices into a respective one of a plurality of grammar...plurality of devices. However, this feature is well known in the art as evidenced by Carberry et al who teach in figure 2, a natural language interface that can controlled multiple back-end applications devices such as host 1 thorough N wherein the natural could abstract each of the plurality of grammar used for each back-end application at col. 5, lines 5-50, col. 6, lines 45-67. Therefore, one having ordinary skill in the art at the time the invention was made would have found it obvious to incorporate into the combination different grammar for instance for airline reservation, train reservation etc. as taught by Carberry because it would provide a comprehensive system that comprises a uniform easy-

to-use interface that can communicate with multiple resources and a system for effectively selecting from the multiple resources.

As per claim 7, Carberry et al further teach wherein the natural language interface module searches for the non-prompted, open-ended request upon the receipt and recognition of an attention word 9col. 5, lines 35-38, his word spotter).

7. As per claims 8- 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array) and Caberry et al (6,442,522 B1)

It is noted that the combination teaches the claimed invention but does not explicitly teach the natural language interface switches grammar, acoustic models ...of an attention word. However this feature is well known in the art as evidenced by Carberry et al who teach at col. 5, lines 5-35, a grammar switch 38 that may included to restrict the end-user to specific set of phrases form switching from grammars such airline reservation, train reservation etc. Therefore, one having ordinary skill in the art at the time the invention was made would have it obvious to incorporate in the speech recognition of the combination a grammar switch as taught by Carberry et al because because it would provide a speech recognition capable of switching between different context using only a specific set of phrase that would render the system faster and adaptable to different tasks.

As per claims 9 and 10, Carberry et al further teach a grammar module for storing different grammars for each of the plurality of devices (his plurality of grammar

such as airline reservation , train reservation and also his his back-end application 60 and his host 58, col. 5, lines 5-10 and col. 7, lines 1-56).

8. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array) and Caberry et al (6,442,522) as applied to claim 1 above, and further in view of Muhling (5,878,394).

It is noted that he combination teaches the claimed invention but does not explicitly teach a remote unit containing the first microphone, the speech recognition and the natural language. However, this feature is well known in the art as evidenced by Muhling who teach a speech control remote control. Therefore, one or ordinary skill in the art at the time the invention was made would have it obvious to recognize that system of the combination could be a remote control as taught by Muhling because it would a speech controlled remote control that would render the interface system more versatile.

As per claim 11, Muhling teaches a devic interface comprises a wireless device interface (his speech control remote control).

As per claim 12, Carberry et al an external network interface coupled to the natural language interface control system (figure 2).

9. Claims 26-54 comprises all the limitations of 1-17 and therefore rejected under the same rationale.

10. Any response to this action should be mailed to:

2. Commissioner of Patents and Trademarks

Washington, D.C. 20231 or faxed to:

(703) 308-9051, (for formal communications intended for entry) Or:

(703) 305-9508 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park 11, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick N. Edouard whose telephone number is (703) 308-6725. The examiner can normally be reached on Tuesday-Friday from 07:30 a.m.-6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached on (703) 305-4386.

The facsimile phone number for this Art Unit is (703) 872-9314. Alternatively, facsimile messages may be sent directly to (703) 305-9644 where they will be stored in the examiner's voice mailbox (telling the examiner that a fax was received) and be automatically printed (i.e. - no delay by the examiner).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Patrick N. Edouard

March 18, 2004



PATRICK N. EDOUARD  
PATENT EXAMINER